

approximately forty-four years. Since it is certain that we may rely on the general accuracy of Gould's place for 1874, it is evident that the motion is direct. From the present position of the companion it is clear that the previous observations relate to the apastron part of the apparent orbit. We may also infer that the eccentricity will lie between 0·6 and 0·7, and that the orbit is considerably inclined about a line of nodes near 85° . The observations do not suffice to fix the other elements, but we may conclude that the apparent orbit will not be very different from that indicated in the figure. The approximate period is obtained by comparing the observations of Herschel and Russell; the constant of areas by comparing the places of Gould and Russell; and hence it is possible to fix the area included between 1879 and 1897. Although the slope of the included arc cannot yet be determined, the approximate path here sketched will be useful to observers.

The rapid motion of this system, which has already carried the companion through one and a half revolutions, combined with the wide angular separation of the components and the high eccentricity of the orbit, renders it an object of extraordinary interest; and hence it merits the most careful attention of observers in the southern hemisphere.

Lowell Observatory, City of Mexico :
1897 January 28.

Estimations of the Magnitude of Nova Aurigæ made at the Radcliffe Observatory, Oxford. By E. J. Stone, M.A., F.R.S., Radcliffe Observer.

In the *Monthly Notices* for 1892 April estimations of the magnitude of *Nova Aurigæ* from 1892 February 3 to March 31 are given. In that interval the star was observed to change from mag. 4·4 to 14·0, the limit of visibility of the Radcliffe instrument. A chart is also given of the comparison stars with their adopted magnitudes.

Subsequent notes in the *Monthly Notices* for 1892 Nov., 1893 Jan., and 1895 Jan. reported that estimations had been made at intervals during 1892, 1893, and 1894; but on the nights, whose dates are there given, the star remained at about 9·7 on the adopted scale.

Since these printed reports examinations have been made on 1895 January 23, 30; September 26; December 7, when no change from 9·7 was detected.

But on 1897 March 10 another examination at once revealed a considerable diminution in brightness; and comparisons made independently by two observers, Mr. Robinson and Mr. McClellan, give the magnitude of the *Nova* as 11·3 on the scale previously adopted. Mr. McClellan also remarked that there

were flickering fluctuations in the brightness of the *Nova*, as seen in previous years, which were not noticed in the comparison stars.

On March 12 the magnitude was estimated by Mr. Wickham as 11.6.

Further Proof of the Rotation Period of Venus.
By Percival Lowell.

(Communicated by the Secretaries.)

As the importance of the rotation period of the planet *Venus* is fundamental to the physical constitution of that planet's surface, and as the observations here are absolutely conclusive to the effect that the planet rotates once in an orbital revolution, I send the Society a fresh piece of evidence in the matter which to a certain class of minds is likely to have more weight than any number of drawings.

Drawings are not unnaturally open in the minds of the sceptical to a certain doubt. For what one has not seen oneself is always received, if not with disbelief, at least with something bordering on incredulity; for which reason drawings are always looked at somewhat askance, especially if the markings depicted appear to be of an unexpected sort. Only when everybody can see the markings for himself are the drawings credited, and then so far as the detection of the markings goes the thing is ancient history. No new thing ever *is* but always *has been* seen. For the sight is never recognised generally until its first recognition is a thing of the past.

As prefatory to what I am about to give, I may mention four points about the markings which are of importance.

1. The markings seen here differ in kind from previous ones. They are not shadings more or less definite, but perfectly distinct markings. I have seen them when their contours had the look of a steel engraving.

2. They are *invariably* visible. Nothing but a very unsteady air can obliterate them.

3. They have been seen by everyone at the observatory who has made any systematic observations of the planets, Mr. Drew, Miss Leonard, and the writer, as well as by others and the drawings of all the observers agree as well as, if not better than, do their drawings of *Mars*. Up to February 6 the number of drawings was 227, showing a very remarkable accordance.

4. This observatory was founded for the express purpose of getting the best atmospheric conditions, which is by far the most important factor in planetary observations; and what I state of the markings is not surmise, but certainty.

Now although the markings were so distinct as to preclude any possibility of illusion, it is not to be expected that they can